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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/709,346

04/29/2004

David D. Needelman

03-0196

3345

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07/10/2006

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EXAMINER

BEAULIEU, YONEL

ART UNIT

PAPER NUMBER

3661

DATE MAILED: 07/10/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/709,346	NEEDELMAN ET AL.	
	Examiner	Art Unit	
	Yonel Beaulieu	3661	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 April 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-31 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 10-31 is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Response to Arguments

Applicant's arguments filed 4/25/2006 have been fully considered but they are not inclusively persuasive.

The §112/2 rejection noted in the last Office has been withdrawn.

Claims 10 – 31 are allowable.

The rejection of claims 1 – 9 is maintained because Bender ('574) does teach what is argued with regard to the subject matter of those claims as evidenced below.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1 – 9 are rejected under 35 U.S.C. 102(b) as being anticipated by Bender et al. (US 5,412,574).

Regarding claims 1 and 9, Bender teaches a method of determining a vehicle attitude or angular velocity, comprising: calculating (using algorithm in processor 14), on-board the vehicle (the vehicle being spacecraft 100; col. 7, lines 16 – 20 at least), a stayout zone associated with a bright object, or a plurality of objects and determining a star in the stayout zone (see figs. 3a and 3b; col. 5, lines 38 – 63 at least); and

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determining a vehicle inertial attitude or angular velocity, based on star measurements of sensed or tracked stars (tracked by item 12; col. 4, lines 25 – 41 at least), excluding (separating) the star within the stayout zone (col. 4, line 66 – col. 5, line 33).

Regarding claims 2 and 3, Bender's teaching further comprises a circular stayout zone (considering orbital path of spacecraft 100 as illustrated in fig. 1a; col. 3, lines 13 – 18 at least) and a non-circular stayout zone (col. 8, lines 23 – 39 at least).

Regarding claims 4 and 5, Bender's exclusion is performed for a fixed and non-fixed period of time (col. 8, lines 40 – 54).

Regarding claim 6, Bender further teaches the exclusion of a star being based upon the properties of the star or the object (Bender teaches which star to detect and determines which to track; col. 4, lines 10 – 16 at least).

Regarding claim 7, Bender further teaches orientation determination of the star trackers (col. 3, lines 57 – 68; col. 5, lines 55 – 63; and col. 6, lines 18 – 22 at least).

Regarding claim 8, Bender further teaches controlling the vehicle attitude in response to the vehicle inertial attitude or velocity (to place item 100 in orbit inherently requires a minimum angular orbital velocity; note col. 5, lines 5 – 32 at least).

Allowable Subject Matter


Claims 11 – 31 are allowed. A statement of reasons supporting the allowable subject matter will be provided in response to this Office action.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yonel Beaulieu whose telephone number is (571) 272-6955. The examiner can normally be reached on Mon., Wed. & Thur. between 0900 and 1600.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas BLACK can be reached on (571) 272-6956. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


Yohel Beaulieu
Primary Examiner
Art Unit 3661